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› CHINS 48V 100AH Lithium Battery Instruction Manual

CHINS RM5120

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Model: RM5120

1. PRODUCT OVERVIEW

The CHINS 48V 100AH Lithium Battery is a high-performance LiFePO4 deep cycle battery designed for golf carts and other applications requiring reliable and long-lasting power. It features an integrated Battery Management System (BMS) for enhanced safety and efficiency, along with Bluetooth connectivity for real-time monitoring.



Figure 1.1: CHINS 48V 100AH Lithium Battery, showcasing its compact design.

Key Features:

- **Smart Connectivity:** Upgraded Bluetooth module and intuitive APP for real-time monitoring of voltage, cell balance, and temperature. Provides instant alerts for abnormal conditions.
- **Enhanced Power Delivery:** Delivers 200A continuous discharge, supporting faster acceleration and sustained speeds for golf carts.
- **Rapid Charging & Energy Efficiency:** Includes a 48V 18A charger, capable of replenishing 20% capacity hourly (0%-80% in 4 hours). Maintains 90% efficiency, significantly higher than lead-acid batteries.
- **Extended Lifespan:** LiFePO4 chemistry provides 4000+ cycles at 80% Depth of Discharge (DoD), offering 8 to 10 times the lifespan of standard lead-acid batteries.
- **Effortless Installation:** Compact single-unit design with pre-configured terminals (M8) for easy replacement of bulky lead-acid setups. Reduces weight by 70%.
- **All-Weather Durability & Safety:** IP65-rated casing resistant to vibrations and moisture. Operates in temperatures from 32°F to 140°F. Multi-protection BMS prevents overcharge/overload with automatic cutoffs.

2. SAFETY INFORMATION

Read all safety instructions carefully before installing or operating the battery. Failure to follow these instructions may result in electric shock, fire, serious injury, or property damage.

- Always wear appropriate personal protective equipment (PPE), including safety glasses and insulated gloves, when handling batteries.
- Do not short-circuit the battery terminals. This can cause severe arcing, fire, and damage to the battery.
- Ensure all connections are secure and properly torqued to prevent loose connections and overheating.
- Do not disassemble, puncture, or modify the battery. Internal components are hazardous.
- Keep the battery away from open flames, heat sources, and flammable materials.
- Charge the battery only with the specified 48V 18A LiFePO4 charger or a compatible charger designed for lithium iron phosphate batteries. Using an incorrect charger can damage the battery and pose a fire risk.
- Store the battery in a cool, dry, and well-ventilated area, away from direct sunlight.
- In case of fire, use a Class D fire extinguisher. Water or foam may not be effective and could worsen the situation.
- Dispose of the battery according to local regulations. Do not dispose of it with household waste.

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Basic Information



M8 terminal-16mm

Good anti-rust performance,
low internal resistance



Professional online customer
service
(one-to-one service)



Reply within 24 hours



US warehouse
(located in California)



Logistics cooperation
(UPS)

Figure 2.1: The battery is designed for all-weather durability, operating between 32°F and 140°F.

3. WHAT'S IN THE BOX

Upon opening the package, verify that all components are present and undamaged:

- CHINS 48V 100AH Lithium Battery
- 48V 18A Charger
- Battery Monitor
- Terminal bolts and caps (M8 terminals)



Figure 3.1: The package includes the battery, charger, monitor, and terminal accessories.

4. SETUP AND INSTALLATION

The CHINS 48V 100AH Lithium Battery is designed for straightforward installation, often fitting into standard golf cart compartments. It replaces multiple lead-acid batteries, simplifying your power system.

4.1 Pre-Installation Checklist:

1. Ensure the golf cart or application is turned off and disconnected from any power source.
2. Verify that the battery compartment dimensions are compatible with the CHINS battery (20.47"D x 10.59"W x 8.66"H).
3. Gather necessary tools: insulated wrenches, wire cutters/strippers, terminal cleaner, and a torque wrench.
4. Confirm that your golf cart's charging system is compatible with LiFePO4 batteries, or use the provided charger.

4.2 Installation Steps:

1. **Remove Old Batteries:** Carefully disconnect and remove existing lead-acid batteries. Note the wiring configuration for reference.
2. **Prepare Compartment:** Clean the battery compartment. If necessary, remove or modify any brackets that obstruct the new battery's placement. The compact design often leaves extra space.
3. **Position Battery:** Place the CHINS lithium battery into the compartment. Ensure it is stable and secure.
4. **Connect Terminals:** Connect the positive (+) cable to the positive terminal and the negative (-) cable to the negative terminal. Use the provided M8 terminal bolts and ensure connections are tight and secure to prevent resistance and heat buildup.
5. **Install Monitor:** Connect the battery monitor according to its separate instructions. This typically involves connecting to the battery terminals and a display unit.
6. **Final Check:** Double-check all connections for tightness and correct polarity.



Figure 4.1: The CHINS battery is designed for seamless integration into golf cart systems.

5. OPERATING INSTRUCTIONS

5.1 Initial Charge:

Before first use, fully charge the battery using the provided 48V 18A charger. Connect the charger to the battery and then to a power outlet. The charger will indicate when charging is complete.

5.2 Monitoring with Bluetooth APP:

The CHINS battery is equipped with a Bluetooth module for real-time monitoring via a dedicated smartphone application. Download the official CHINS APP from your device's app store.

1. **Download APP:** Search for "CHINS Battery" or similar in your app store.
2. **Connect:** Enable Bluetooth on your smartphone and open the CHINS APP. The app should automatically detect and connect to your battery.

3. **Monitor Data:** The APP displays critical information such as:

- Voltage
- Current (Charge/Discharge)
- State of Charge (SoC) percentage
- Individual Cell Voltages
- Temperature
- Cycle Count

4. **Alerts:** The APP provides instant alerts for abnormal conditions, allowing for proactive management.

5.3 Charging the Battery:

Use the included 48V 18A charger for optimal performance. The battery can be charged from 0% to 80% in approximately 4 hours. Other charging methods include solar panels ($\geq 800\text{W}$, 4-5 hours effective light) or generators (with a 20-40A DC to DC charger).

5.4 Discharge and Performance:

The battery delivers a continuous discharge of 200A, providing significant power for acceleration and sustained speeds. Expect a range of 30+ miles per charge, even on inclines, depending on usage and terrain. The BMS ensures stable power output throughout the discharge cycle.



Figure 5.1: The CHINS battery is suitable for various deep cycle applications, including RVs.

6. MAINTENANCE

One of the significant advantages of LiFePO4 batteries is their minimal maintenance requirements compared to lead-acid batteries.

- **Regular Inspection:** Periodically check battery terminals for cleanliness and tightness. Ensure there is no corrosion

or loose connections.

- **Cleaning:** If necessary, clean the battery casing with a dry or slightly damp cloth. Do not use harsh chemicals or abrasive cleaners.
- **Storage:** For long-term storage, ensure the battery is charged to approximately 50% State of Charge (SoC). Store in a cool, dry place. The stable LiFePO4 design allows for vibration-proof garage storage.
- **No Watering:** Unlike lead-acid batteries, LiFePO4 batteries do not require watering or electrolyte level checks.
- **BMS Protection:** The built-in BMS actively manages the battery, preventing overcharge, over-discharge, over-current, and short-circuit conditions, reducing the need for manual intervention.

7. TROUBLESHOOTING

If you encounter issues with your CHINS battery, refer to the following common troubleshooting steps:

Problem	Possible Cause	Solution
Battery not charging	Charger not connected, charger fault, battery BMS in protection mode, incorrect charger type.	Ensure charger is properly connected and powered. Check charger indicator lights. Verify charger is specifically for LiFePO4 batteries. Check battery status via Bluetooth APP for protection mode alerts. Disconnect and reconnect battery to reset BMS if needed.
No power output from battery	Battery discharged, loose terminal connections, BMS in protection mode (over-discharge, over-current, short-circuit).	Check battery SoC via APP. Recharge if low. Inspect and tighten all terminal connections. Check APP for BMS alerts; the BMS may have cut off power for safety. Remove load and wait a few minutes for BMS to reset, or cycle power.
Bluetooth APP not connecting	Bluetooth disabled on phone, APP not updated, interference, battery too far.	Ensure Bluetooth is enabled on your device. Restart the APP. Move closer to the battery. Try restarting your phone. Ensure the battery is powered on.
Reduced range or performance	Battery not fully charged, excessive load, extreme temperatures, battery aging.	Ensure battery is fully charged before use. Reduce excessive loads if possible. Operate within specified temperature ranges (32°F to 140°F). Monitor battery health via APP.

For issues not covered here, or if problems persist, please contact CHINS customer support.

8. SPECIFICATIONS

Detailed technical specifications for the CHINS 48V 100AH Lithium Battery (Model: RM5120).

Specification	Value
Brand	CHINS
Model	RM5120
Battery Type	LiFePO4 (Lithium Iron Phosphate)
Voltage	48V
Capacity	100AH

Specification	Value
Energy Output	10.24kW
Peak Current	1000A
Continuous Discharge Current	200A
Charger Included	48V 18A
Cycle Life	4000+ cycles at 80% DoD
Product Dimensions (D x W x H)	20.47" x 10.59" x 8.66" (520mm x 269mm x 220mm)
Item Weight	83.8 pounds (38 kg)
Terminal Type	M8
Waterproof Rating	IP65
Operating Temperature	32°F to 140°F (0°C to 60°C)
UPC	755621494249

PRODUCT SIZE

WEIGHT: 87 LBS (39.5 KG)



9. WARRANTY AND SUPPORT

CHINS is committed to providing high-quality products and customer satisfaction.

9.1 Warranty Information:

Specific warranty terms and duration are provided at the time of purchase. Please refer to your purchase documentation or contact CHINS customer service for detailed warranty coverage. Keep your proof of purchase for warranty claims.

9.2 Customer Support:

For technical assistance, troubleshooting, or warranty inquiries, please contact CHINS customer support. CHINS offers professional online customer service (one-to-one service) and aims to reply within 24 hours. Ensure you purchase from authorized agents: CHINS-US, CHINS LiFePO4 Battery, or CHINS-STORE in the United States.

You can visit the official CHINS store on Amazon for more information:[CHINS Store](#)

